

FOKKER D.VII

in action



 Aircraft Number 166
squadron/signal publications

Don Gault

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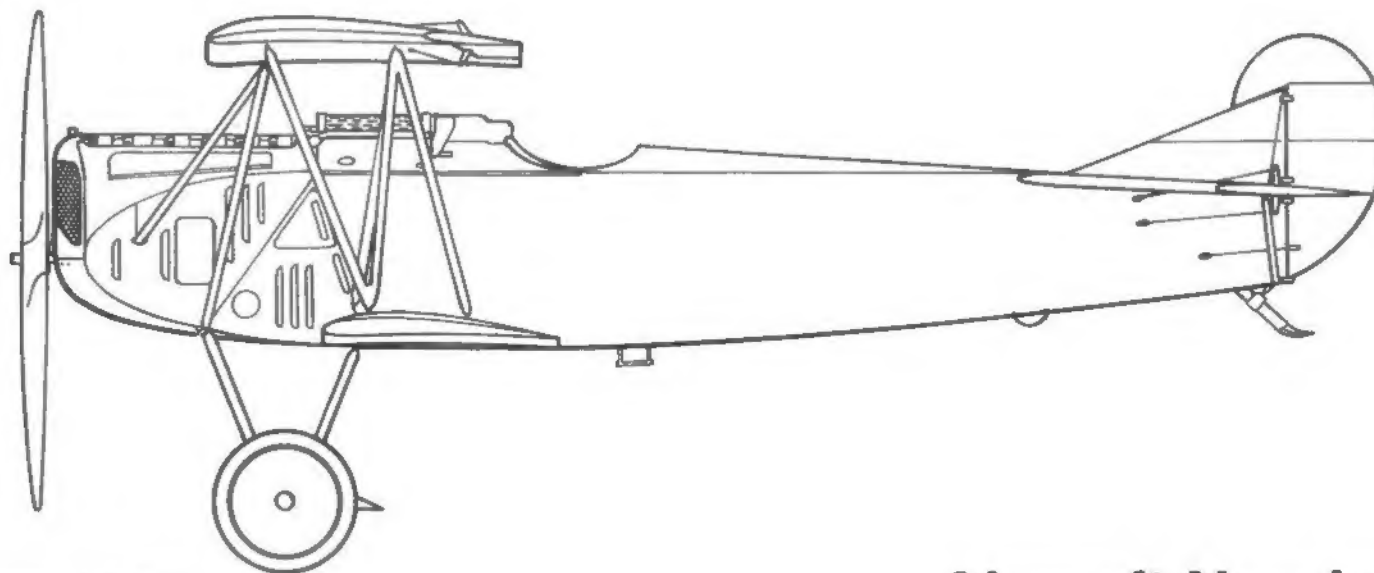
FOKKER D.VII

in action

By D. Edgar Brannon

Color by Don Greer

Illustrated by Joe Sewell



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Oblt Lothar von Richthofen, younger brother of the Red Baron, over the western front in his Yellow nosed Fokker D.VII.

Acknowledgements

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Credits

Photo credits go to the U.S. Air Force Museum, Fokker B.V., Holland, and most of all Peter M. Bowers.

Author's Note

Very different views of Anthony Herman Gerard Fokker, his contributions and ethics, are presented in two of his biographies that I have used as references. Mr. Weyl, *Fokker, the Creative Years*, a German citizen, almost grudgingly admits to Fokker's accomplishments, and attributes most of Anthony Fokker's innovations to others. He presents Mr. Fokker's business acumen as generally less than honest. Mr. Hegener, *Fokker, the Man and the Aircraft*, on the other hand, a Dutch citizen, portrays Anthony Fokker as an honest and creative man with a great deal of ingenuity and ability. I agree with Mr. Hegener.

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Dedication:

This book is dedicated to that grand student of world aircraft, Peter M. Bowers.



Hermann Goering in the cockpit of a late Fokker D.VIIF. At this time Goering was the so-called Rittmeister (Ring Master) of The Flying Circus (Jagdgeschwader 1). He would later become Field Marshal, commanding the German Air Force in WW II. (Fokker)

Introduction

The Air War in 1917

By February of 1917 The German Air Service had completely reorganized. The rule of the day had now become defense. Observation aircraft still flew the front lines, but fighters were restricted to operating behind German lines. The Air Command of the sixth German Army formed *Kampf Einsitzer Kommando* units (KEKs) whereby fighters were drawn from various *Feldfliegerabteilungen* to form groups in order to more effectively counter Allied aircraft incursions. Three KEKs were formed: The *Nord* (North), the *Süd* (South) and *Drei* (Three). Oswald Boelcke with only one other pilot formed the third KEK. Late in 1915 Boelcke had evolved the 'pair' concept, whereby pilots formed up in pairs to attack (Boelcke's original flying partner had been Immelmann.)

After two years in the air over the western front and with the advent of Immelmann's death, Oswald Boelcke was transferred to the Eastern front (the Balkans) for no other reason than to preserve his life. Immelmann's death had had a profound effect on the German public, he had been a well publicized war hero. Other German aces were coming to fore (Richthofen), but with a less than successful ongoing war in France, the German people needed heroes, "live" heroes.

Boelcke was called back to the western front in July 1916 after the British offensive on the Somme River began, to further reorganize the German Air Service. *Jagdstaffeln* or *Jastas* (hunting groups or squadrons) were formed up by Boelcke and the *Idflieg* (*Inspektion der Fliegertruppen* - Inspectorate of Aviation Troops). *Jasta* 1 was a "paper" unit and Boelcke took command of *Jasta* 2. On 29 October 1916, Oberleutnant Oswald Boelcke was killed in a flying accident. One of his best friends and fellow pilot Erwin Boehme flew into Boelcke's Halberstadt II, damaging Boelcke's upper wing with his undercarriage. As Boelcke headed toward the safety of the ground the wing tore off of his Halberstadt and he crashed. Boelcke had achieved some forty victories in the air at the time of his death!

Air superiority had see-sawed back and forth between the Allies and the Germans. The German Air Service had over 300 fighters organized into *Jastas*. The British and French also flew in squadrons in 1916, with the French grouping in fours, one pilot in command.

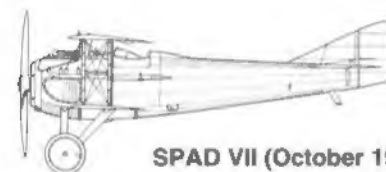
The Germans introduced the Albatros D.III in January of 1917 providing their *Jastas* with a much needed improvement to their fighter strength. The formation of *Jastas* enabled the



Albatros D.III (Jan 1917)

German Air Service to attack in force Allied formations of observer aircraft escorted by fighters as well as fly escort for German observer aircraft. However, German aircraft rarely flew across the lines into Allied territory, fighting with a defensive strategy, much the same as the German ground forces were now doing.

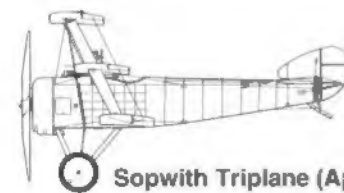
In May of 1917 the Albatros D.V entered the German Air Service. The Allies, however, were fighting with a plethora of excellent new aircraft types entering service in 1916 and



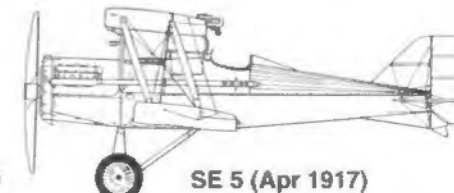
SPAD VII (October 1916)



Sopwith Pup (Nov. 1916)



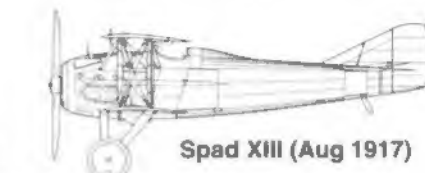
Sopwith Triplane (Apr 1917)



SE 5 (Apr 1917)



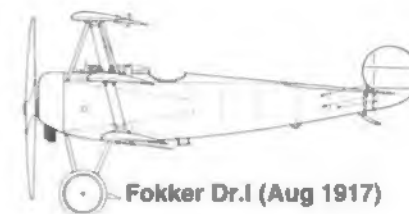
Sopwith Camel (Jul 1917)



Spad XIII (Aug 1917)

1917: the SPAD VII (October 1916), the Sopwith Pup (November 1916) the Sopwith Triplane (April 1917), and the SE 5 (April 1917). The Halberstadt and Albatros carried the load of the fighting. The Bristol FE.2a and b aircraft (pushers) were introduced in April, May and June of 1917, but having been ordered to hold formation when attacked, they fared badly. Once this order was rescinded the FE pilots held their own. The Sopwith Triplane was superior to the Albatros D.III in both speed and maneuverability. The Albatros D.V and D.Va, were plagued by wing failures. The Idflieg, losing air superiority, ordered German and Austrian aircraft manufacturers to copy the Sopwith Triplane. Only two firms, Fokker and Pfalz, produced satisfactory Dreideckers. Production orders were placed for both.

The first Fokker Dr.Is went to *Jasta* 11, the *Flieger Zirkus* (Flying Circus), so-called because of the gaudy colors that their aircraft were painted. Two of the new triplanes were assigned to Werner Voss and Manfred von Richthofen. In October wings started coming off of the Dr.Is and the new aircraft were withdrawn while the wings were strengthened. The Fokker Dr.I returned to the front in December of 1917. Lack of speed was its only drawback. Production ceased after only 320 were built.



Fokker Dr.I (Aug 1917)

The Sopwith Camel entered air combat in July of 1917 and would account for more air victories than any other British aircraft. It was the first British airplane to mount two machine guns. Their breeches were enclosed in a 'hump' in front of the pilot, hence the name. Over



Anthony Herman Gerard Fokker standing in front of one of the first Fokker E.II mono-planes to mount a Maxim '08 Lightened Machine Gun. The side of the cowl has been modified to enclose the machine gun ammunition belt. (Bowers)
5000 Camels would be built.

Larger and faster than the SPAD VII, the SPAD XIII arrived at the front in August of 1917. It rapidly replaced the older SPAD models.

The Idflieg introduced the Pfalz D.III in September of 1917. By the winter of 1917-18 only Albatros D.Vs and Fokker Dr.1s were suitable for combat. But while it was inferior in many ways, the Pfalz D.III still went into combat with the Jastas. SE 5, SPAD and Camel pilots considered the Pfalz D.III as "easy meat" (Cheesman).

The German Air Service, working in close coordination with the Commanders of the German ground forces, introduced a new class of aircraft in late 1917 to assist the ground troops. These aircraft, patterned after the C class of observer aircraft were designated CL or light observer aircraft. These new two-seaters had much shorter wing spans and weighed about the same as fighters. They were equipped with machine guns for both pilot and observ-

The V.4, the first prototype of the Fokker Dr.1 (Dreidecker I). Fokker incorporated the "Verspannungslos" or "no bracing" concept in this aircraft as well. Fokker used his 'box' type of spar in the remainder of the aircraft he manufactured during and after the war. (Bowers)



The Fokker V.1 Floh (Flea), an experimental model developed by Fokker's new designer, Reinhold Platz, was without bay struts, braces or cables. The Floh was also the first experimental use of an axle-wing that provided additional lift. (Bowers)

er. The Halberstadt CL.II, the Hannover CL.II and the Junkers CL.I made up these types.

These biplanes were formed up into Schlachtstaffeln or trench fighting groups (Schlastas). Later, Schlachtgruppen and Schlachtgeschwäden were formed. In November of 1917, Schlastas made a mass attack on British troops at Cambrai. This new tactic was successful, but quite dangerous for the German flyers. (What wasn't "quite dangerous" in this War?) The planes carried grenades and small bombs as well as a wireless to closely coordinate with ground troops. Strafing and bombing Allied troops that were on the offensive and in the open, proved to be deadly to the Allies.

The Air War In 1918

Fokker's lack of success in selling fighter aircraft to the German Air Service after his successful run with the Eindekker series culminated with the death of his chief designer, Martin

Going into service in August of 1917, the Fokker Dr.1 Triplane proved to be an excellent adversary to the numerous new Allied aircraft that were being put into the air. This Dr.1 was flown by Lt. Rudolf Stark, Commander of Jasta 35, who would later fly the Fokker D.VII, and finish the war with 11 victories. (Squadron Signal Publications)





The Fokker V.9, basically a rebuilt Dr.I Triplane with the middle wing removed, was the predecessor of both the radial engined Fokker D.VI and the in-line engined Fokker D.VII. The fuselage and empennage of the Dr.I are obvious. (Bowers)

Kreutzer, in an air crash in June of 1916. Two events put Fokker back on the track of success: choosing Reinhold Platz, a master welder by trade, as Kreutzer's successor; and the introduction of the Sopwith Triplane by the Royal Flying Corps in April of 1917!

The fighting qualities of the Sopwith Triplane were such that the Idflieg issued a request that German aircraft manufacturers produce copies of this new British aircraft. Two manufacturers submitted acceptable designs, Fokker and Pfalz.

A year had passed since production of Fokker's 'E series' had been terminated during which the Fokker D series of biplanes were produced with only small orders being placed by the Idflieg. In the meantime, during the fall of 1916, Fokker had become intrigued with cantilever wings (wings without external bracing), and began experimenting with them after

The Fokker V.11/1, the second prototype of the Fokker D.VII was powered by a 160-hp liquid cooled in-line Mercedes Engine. Although a shorter fuselage than the production D.VII it has the same strut arrangement. (Bowers)



abandoning his troubled 'D series'. Designed by Platz, the Fokker V.1 Floh (Flea) was constructed by the Fokker Flugzeugwerke and submitted to the Idflieg in December of 1916. Deemed too radical, it was rejected. Fokker and Platz next built the V.2, a larger aircraft with a larger engine, it too was abandoned in January of 1917. V stands for Versuch which translates to experimental. V.1 literally means Experimental No 1.

The V.3, Fokker's tri-winged submission to the Idflieg, initially had no wing bracing whatsoever, however, wing vibrations forced Fokker to add external outboard struts. With wing struts the V.3 became the V.4, which was later designated the Dr.I (Dr. standing for drei-dekker - triple dekker). When the smoke cleared Fokker's (and Platz's) effort had won the fighter trials. The Fokker Dr.I Triplane went into production, arriving at the front in August of 1917.

After two or three experimental journeys into the unknown, from the V.5 through the V.8 (a five winged monstrosity), Fokker elected to develop two cantilever winged designs in parallel, a rotary-engined aircraft (Fokker had purchased the Oberursel rotary engine factory), and an aircraft powered by a stable (non-rotating), inline engine.

Platz began work on the V.9, a very sensible, cantilever winged biplane similar to the Dr.I, and initially powered with a rotary engine. Shortly, however, a 160-hp, water-cooled Mercedes engine was installed in a larger airframe and designated the V.11. Two innovations were employed on the V.11: contrary to accepted design practice the radiator was cleanly and simply installed in front of the engine; and the outboard wing struts were an 'N' form, integrating the upper and lower wings spar to spar.

The development department of the Fokker Airplane Factory had a very busy agenda during the late months of 1917. A fighter competition was to be held in January at Adlershof airfield near Berlin. The Idflieg had announced that it wanted both rotary and inline engined aircraft submitted for testing and there wasn't a minute to lose readying the Versuch aircraft for trial.

Fokker had a second V.11 built and then constructed the V.18. The V.18, while similar to the V.11, was larger and heavier, and proved to be inferior to the V.11.

Fokker and Platz then built a pair of V.13s as an improvement on the rotary-engined V.9. They increased the wing area to improve climb rate and high altitude performance, and they mounted rotary engines in both airframes, the 160-hp Oberursel UR.III in V.13/I and a 160-hp Siemens-Halske bi-rotary in V.13/II. 'N' struts were used on both.

And there was still time to build the V.17. The design team took a V.4 (Dr.I) fuselage and mounted a single 'parasol' type of cantilever wing. The wing was completely covered with plywood, rather than partially as with the V.11. (The V.17 would become the prototype for the Fokker D.VIII, the so called 'Flying Razor Blade').

The Adlershof fighter competition began on the 21st of January, and would last until the 12th of February. Of the over thirty aircraft entered, Fokker entered eight: four biplanes, three triplanes and the parasol monoplane. A second monoplane would follow, which Platz built after Fokker left for Adlershof.

Although Fokker had at least two test pilots on site, he flew most of the first day test flights himself. The V.11 and the V.13/I were first flown at low altitudes with Fokker impressing the audience with his flying ability. The V.13/I was powered by an Oberursel UR.III, a new experimental rotary engine that Fokker's Oberursel Motoren Werke had built. He then flew one of his triplanes that was also powered by a UR.III. (The Idflieg gave out very lucrative contracts for engine production, hence Fokker's interest in demonstrating his new rotary engine.)

On the second day, Fokker flew the new Junkers D.I (he was president of the Junkers-Fokker Werke) against the Albatros D.Va and lost. He cited that an improper propeller had caused his failure. In fact, the propeller of the Junkers D.I disintegrated in flight! He again flew the V.13/I, but the new UR-III rotary engine performed unsatisfactorily.

On the third day fighter pilots were allowed to fly the entries. Fokker was on good terms with Baron von Richthofen and he asked von Richthofen to fly and critique the V.11. After testing the V.11 Richthofen told Fokker that the V.11 had good performance, but did not handle well. Richthofen had flown the V.11 against the Albatros D.Va, the fastest aircraft in service at that time and won!

On Friday, 25 January 1918 the V.11, flown by Fokker Works pilot Grosse climbed to an altitude of five kilometers in 30.7 minutes in unfavorable weather. Later, after the weather improved, he flew the V.11 to the same height in 25.2 minutes!

Richthofen's remarks brought out the genius and tenacity in Anthony Fokker. It is believed that Fokker took another flight in V.11 and then flew it to Johannisthal just before the weekend. Fokker informed Platz by telephone of the lack of success experienced with the biplane and directed Platz to immediately send the best Schwerin fabricators to Johannisthal. He intended to completely rebuild the V.11 in a shed he had kept rented ever since having to move to Schwerin when the Idflieg decentralized aircraft production at Johannisthal!

V.16, one of the prototypes of the Fokker D.VII. The empennage is quite different on this aircraft than on production D.VIIs. The wing cut-out suggested by Baron von Richthofen can be seen at the center of the upper wing. This was one of the eight aircraft that Fokker entered in the January, 1918 fighter trials at Adlershof. (Bowers)

The V.11 was nose-heavy (perhaps the reason why "accepted design practice" did not install the radiator in front of the engine, but had the radiator located closer to the center of gravity!) and major modifications were made:

- 1) The fuselage was lengthened 40 centimeters behind the wing spar.
 - 2) The wings were moved backward.
 - 3) The entire tail was redesigned with a larger stabilizer, elevator, and fin-rudder combination.
 - 4) An upper wing cutout was made for better pilot visibility (one of Richthofen's suggestions).
- Working day and night, these modifications were made in time to return to Adlershof and complete the trials.

The rebuilt V.11 performed beautifully and so delighted Richthofen when he flew it, that he had two of his Circus pilots, Lörzer and Klein also fly it. They flew mock combat with a number of aircraft at the trials and found little fault with new ship, except its mediocre climbing. The pilots felt that the soon-to-be-in-production 185-hp B.M.W. engine should be installed. Unfortunately the Idflieg responded to the request by saying that installation of the B. M. W. engine would have to wait six months, the 160-hp Mercedes would have to do until then. Fokker "picked up all the marbles" at Adlershof when he won both the inline and rotary trials with his V.11 and his V.13/I aircraft.

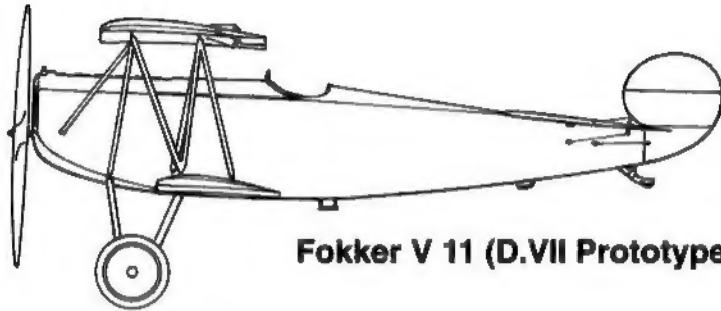
The Idflieg designated the V.13/I monoplane the Fokker D.VI, and the rebuilt V.11 biplane, the Fokker D.VII. The pilots, however, asserted themselves when they insisted that the D.VI monoplane be powered by the UR-II rotary engine that the Dr.1 Triplane had mounted. The UR-II was a tried and proven engine rather than the new UR-III that had done poorly in the Adlershof trials.



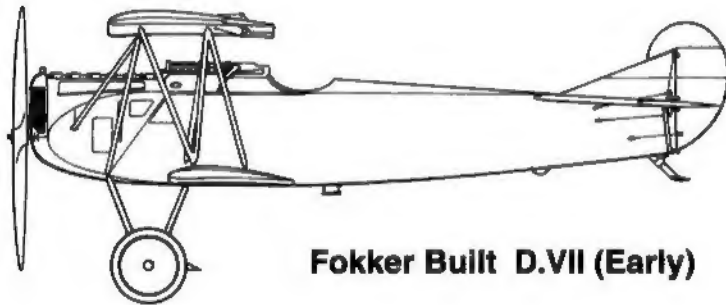
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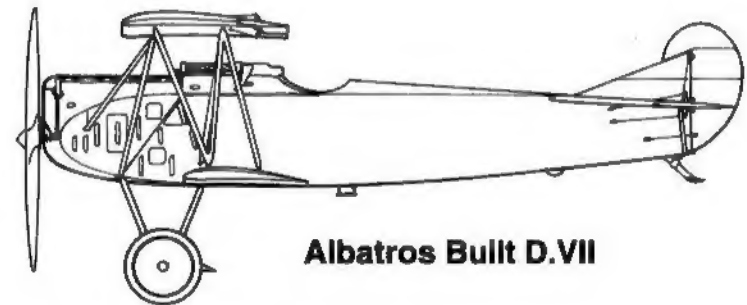
Fokker Dr.I Triplane



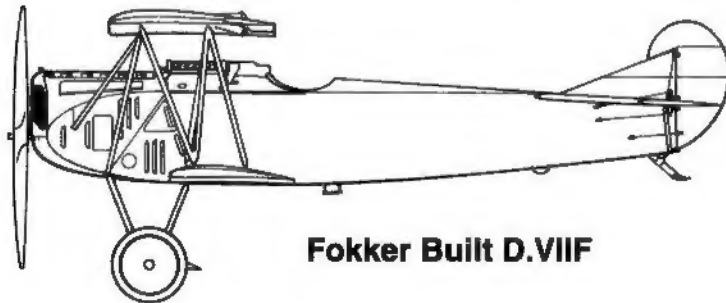
Fokker V 11 (D.VII Prototype)



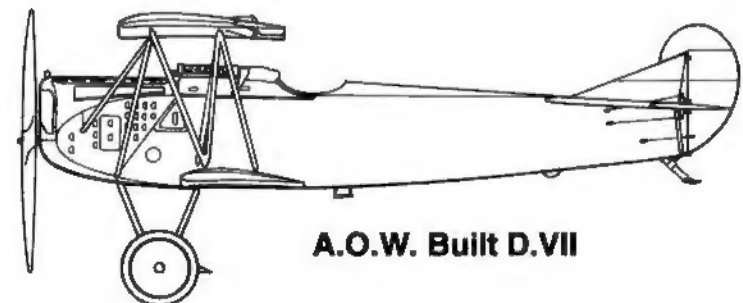
Fokker Built D.VII (Early)



Albatros Built D.VII



Fokker Built D.VIIF



A.O.W. Built D.VII

Fokker D.VII

German ground forces were doing well and planning a large ground offensive in March and the German Air Service wanted as many of these new fighters produced as quickly as possible. The Idflieg gave Fokker an immediate order for 400 D.VII's at a very good price, and much to the delight of Fokker, the Idflieg ordered the Albatros Werke and Ostdeutsche Albatros Werke to produce the new Fokker biplane under license paying Fokker a five percent license fee for each D.VII they produced! (Only about 60 Fokker D.VI monoplanes were ever delivered to the German Air Service.)

On 4 February 1918 the V.11 (D.VII) biplane went through type tests. The examiners reported the following:

Unloaded weight- 655 kg (1445 lb)

Loaded weight- 845 kg (1860 lb)

Wing weight- 125 kg (277 lb)

The V.11 passed its structural strength tests with impressive ease. The Fokker D.VII had welded steel tubing as its main structural material. The clean internally braced cantilever wings were without wires, the laminated plywood ribs and wooden box spars, and providing

353/18, an early standard Fokker D.VII with a 160-hp Mercedes engine in the factory standard vertical Green streaked camouflage on the fuselage and 45 degree streaks on the horizontal top wing and tail surfaces. (Fokker)



The lack of a top wing cut out would indicate that this is possibly a V.11 or V.18 that has been revised to D.VII standards. The Maltese crosses also signal its early age in D.VII production. (USAF Museum)





This German airfield at the front in April of 1918 is the scene of the arrival of a brand new Fokker D.VII. A full array of German fighters, including an Albatros D.Va and a Fokker Dr.I are in the background. (Bowers)

great strength. 'N' struts were on the outboard of the wings. The wings were fabric covered with their leading edges sheathed with thin plywood. The D VII fuselage and empennage were fabric covered. (Both Fokker and the Albatros Werke built a few experimental fuselages with wood longerons and formers and covered them with plywood when a steel tubing shortage seemed to be in the offing. The tubing shortage did not materialize.)

Structural loading tests were completed on the V.11 early in February with structural tests on a production D.VII (D 230/18) being completed in March. No aircraft had ever passed these tests as well. The testing authority only requested that strengthening plates be added to the spars where the 'N' struts were attached.

Fokker D.VII's began arriving at Flugzeug parks and subsequently Jastas in late March and early April of 1918. As they became available D.VII's were assigned first to so-called "star" units and issued to pilots by order of seniority with the unit. The following Jastas would eventually be equipped with the Fokker D.VII.

Geschwader I - Jastas 4, 6, 10 and 11

Geschwader II - Jastas 12, 13, 15 and 19

Geschwader III - Jastas 2, 26, 27 and 36

Independent Jastas 5, 7, 8, 14, 16, 17, 20, 22, 23, 24, 28, 28, 30, 32, 35, 37, 40, 44, 46, 47, 48, 49, 51, 52, 53, 54, 56, 57, 58, 59, 66, 69, 71, 74, 79 and 80

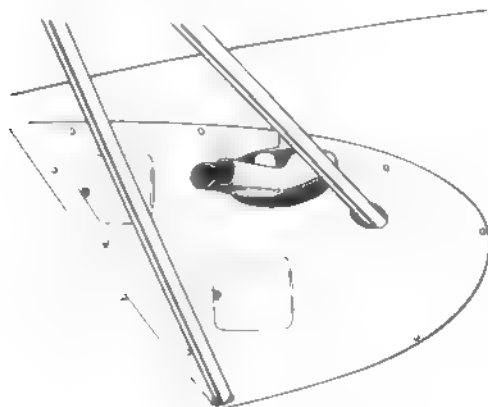
As the Fokker D.VII began going into action pilots on both sides of the front expressed amazement at the performance of the new fighter. The D.VII was more than a match for any Allied fighter in the air, and the rugged durability of the new machine astounded D.VII pilots as they returned to their airfields with cables and struts shot away.

Pilots flying Fokker D.VII's challenged anything in sight and generally won! Sadly, however, the policy of leaving new pilots to fly the cast off aircraft of pilots assigned to the D.VII contributed most of the fatalities in the Jastas during 1918. Baron von Richthofen lost his life on 21 April 1918. Although given one of the first D.VII's, he elected to fly his Dr.1 on the fateful day of his death.

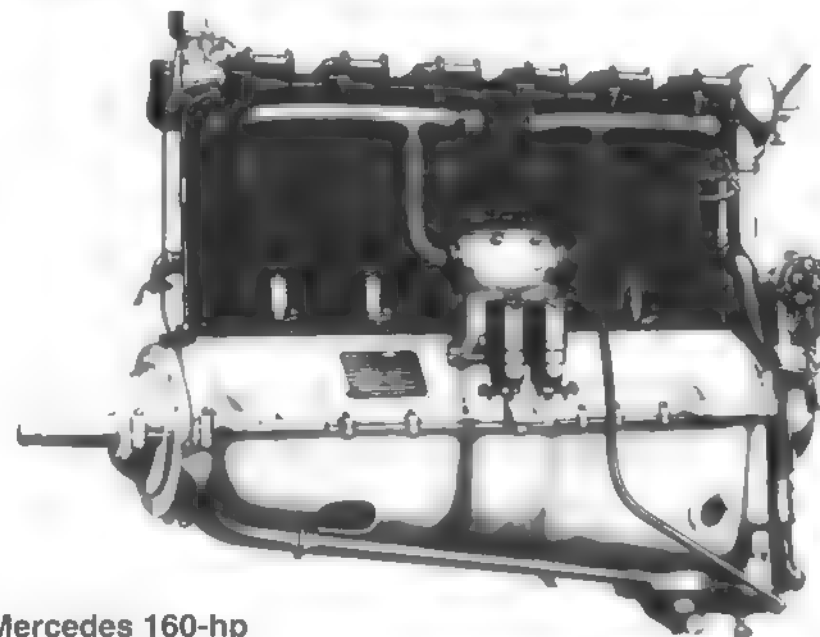
According to Weyl the following table reflects the influx of Fokker D.VII's at the front.

MONTH	COUNT
May 1	19
July 1	407
September 1	828
November 1	775

Early Exhaust Pipes



An early Fokker-built D.VII (507/18) with the 160 hp Mercedes engine. The twin exhaust pipes of the Mercedes engine can be seen coming out of the side of the engine cowling just behind the front strut. (Bowers)

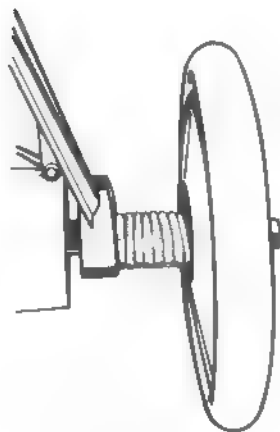


Mercedes 160-hp D.III engine

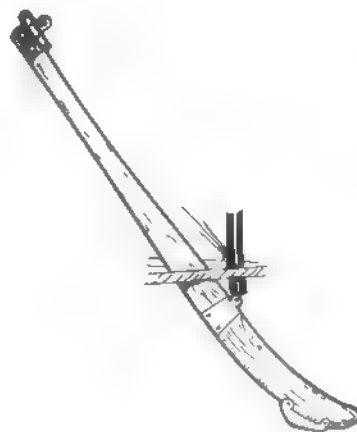


(Above) During Typenprüfung (type testing) the first production Fokker D.VII built by Albatros (527/18) sits at Adlershof with a collapsed tail skid. (Bowers.)

(Below) A colorful Fokker D.VII with a shooting star on the side of its fuselage. This machine is believed to be the mount of Obltn Auffahrt of Jasta 29 (Nowara)



Shock Absorber



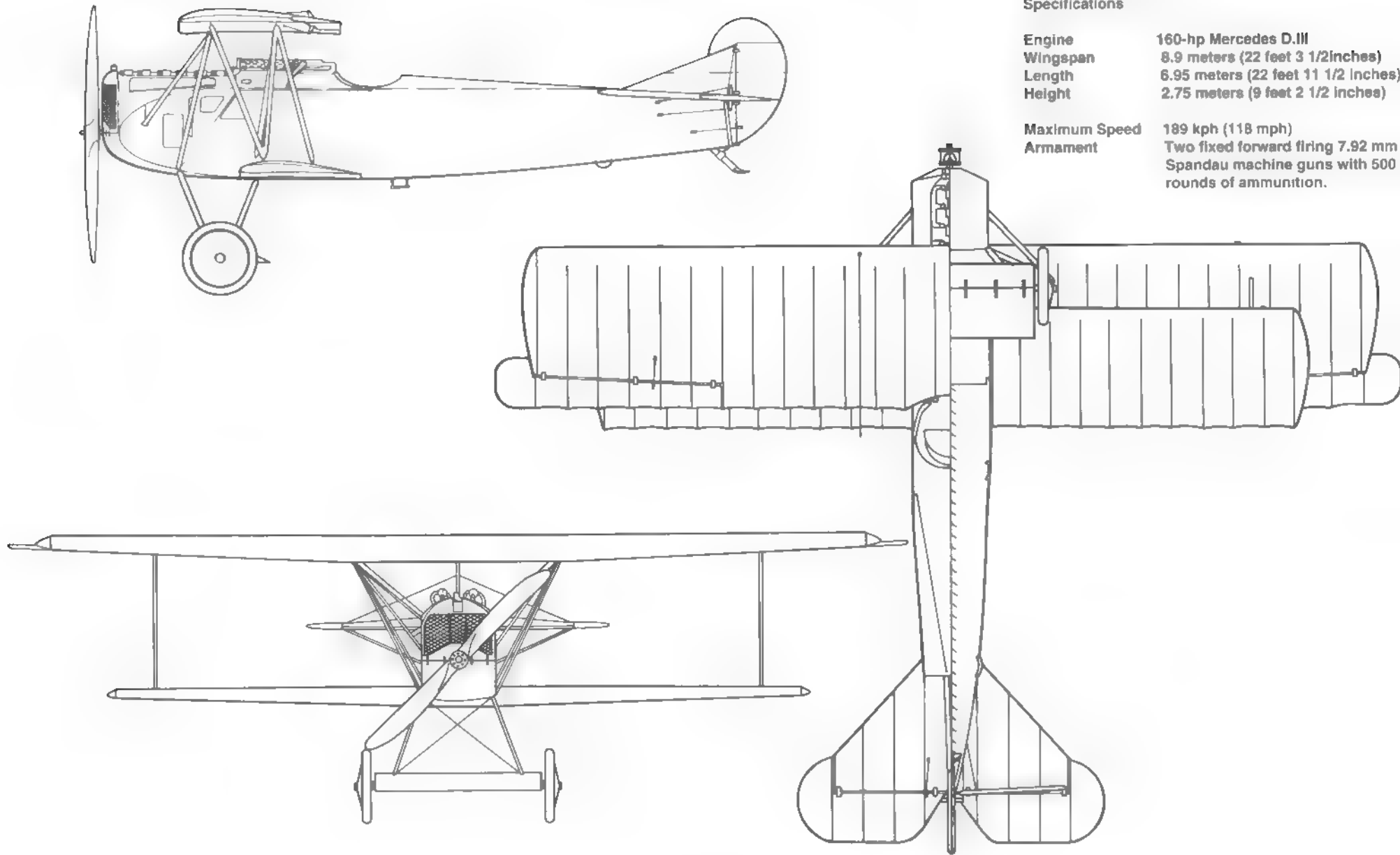
Tail Skid



Fokker D.VII (Early)

Specifications

Engine	160-hp Mercedes D.III
Wingspan	8.9 meters (22 feet 3 1/2 inches)
Length	6.95 meters (22 feet 11 1/2 inches)
Height	2.75 meters (9 feet 2 1/2 inches)
Maximum Speed	189 kph (118 mph)
Armament	Two fixed forward firing 7.92 mm Spandau machine guns with 500 rounds of ammunition.





(Above) A new pilot pointing at his pilot's badge, standing next to a very early Fokker D.VII with Maltese crosses changed over. The partially painted fin would indicate that this is a Fokker built machine. (USAF Museum)

(Below) This early D.VII with the standard factory streaky Green camouflage, was flown by Lt. Kraut of Jasta 4. Stripes can be seen on the horizontal tail surfaces. The shield on the fuselage side is of the pilot's hometown, Thorn in West Prussia. A captured SPAD repainted with German markings is in the background. (Bowers)





(Above) This experimental D VII was built with a wooden fuselage. The possibility of a serious metal shortage caused both Fokker and Albatros to experiment with alternative construction methods. (Bowers)

(Below) Fokker had this wooden fuselage built by the Fokker owned Flugzeugwerke, Lubeck-Travemunde. The metal shortage, however, never affected aircraft production. (Betty Stadt Collection)





The D.VII production at the Fokker factory in Schwerin, Germany. (Fokker)





(Above) The D.VII production line at the larger and more modern Albatros plant at Berlin-Johannisthal. The contrast in working conditions compared to the Fokker Works is obvious. (Bowers)

(Left) Final assembly of a D.VII that has not had its temporary wooden wheels replaced by the spoked wheels and wheel covers. (Bowers)

(Below) Disassembled for transportation, this train load of early Fokker built D.VIIs are being shipped from the Schwerin factory to the front. One of the requirements of the *Idflieg* was that an aircraft could be easily and quickly disassembled for transporting. (Fokker)



Spandau/Maxim Lightened Machine Gun

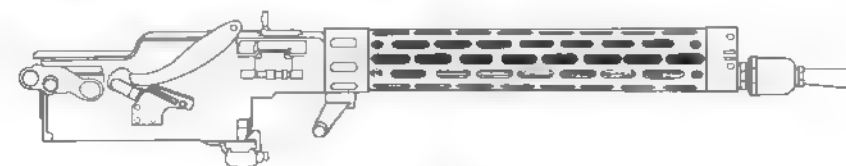
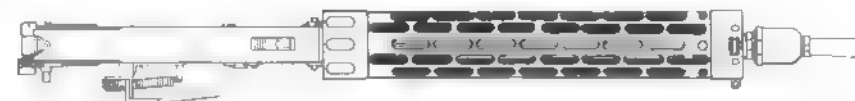
The Fokker D.VII carried the standard armament of the time, two Spandau '15 machine guns each with a rate of fire at well over 600 rounds per minute. 500 rounds of ammunition was carried in compartments just ahead of the pilot and behind the fuel and oil tanks.

The adversaries, both on the ground and in the air, were using essentially the same machine gun. Hiram Maxim, unable to arouse interest in his patent for a short-actioned machine gun in the United States, made the rounds in Western Europe, Russia and Britain during the early 1900s, trying to 'sell his wares'. It seems that every country he visited either licensed firms to produce it or, in the instance of England, Vickers and Maxim Ltd was formed to manufacture the machine gun. The military high command in Germany put the Spandau Arsenal to work producing the '08 Spandau for both the Army and Navy. The Parabellum, meaning "for war", from the latin expression: "For peace, prepare for war" was the '14 version of the '08 machine gun, redesigned by Karl Heinemann. When air warfare began, the Parabellum outfitted German reconnaissance aircraft sections (fliegerabteilungen) and the British Lewis machine gun outfitted both British and French airplanes.

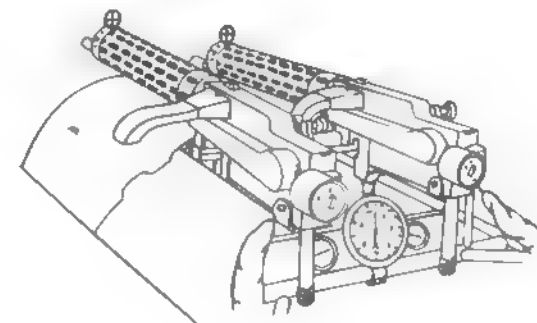
The first synchronized machine guns were Parabellums fitted to the Fokker E.I monoplane. Lack of availability of the Parabellum caused Fokker to switch to the '08 Spandau (the same action was on both guns) lightened for aircraft use. The lightened machine gun had originally been designed for use on Zeppelins.

The Spandau armory redesigned the '08 to be carried by infantry in 1915. This version did not reach the aircraft industry in Germany until 1917. From then on German fighters (D types) generally mounted twin '15 Spandau's while observers used twin Parabellums (Spandau/Maxim Light Machine Guns).

The small white square on the fuselage of this Fokker built D.VIIF contains rigging instructions. The detail of the MG charging handles (cocking handles) can be seen. (Fokker)



D.VII Mounted
Spandau
Machine Guns



In Flight Fires

In-flight fires in several Fokker D.VII's resulted in fatal crashes. The cause of these crashes was unknown until Lieutenant Fritz Friedrichs survived by bailing out of one of the burning Fokkers. He told investigators that his ammunition caught fire and ignited fuel vapors around the engine! The incendiary ammunition being used by the German Air Service had a very low flash point and the heat from the engine ignited it. Additional ventilation to the ammunition boxes was provided by adding louvers to the engine cowling. The ammunition manufacturers also redesigned the incendiary ammunition. The in-flight fires ceased.

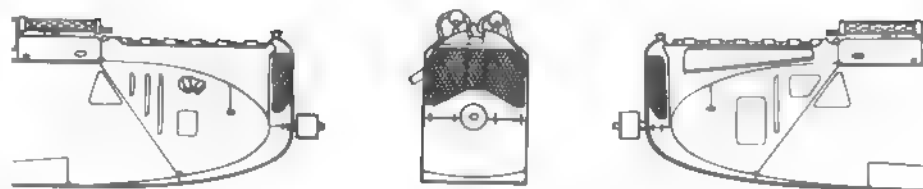
The position and size of the added cooling louvers was left to the respective manufacturers and each factory positioned them differently. These differences provided an additional external point of reference in identifying at which factory a particular D.VII was manufactured.

When the cause of the in-flight fires became known, some pilots began flying without engine side panels and others, such as Lt. Stark of Jasta 35, had additional exhaust apparatuses installed on the engine. (Andre H.C. Botto Souza)

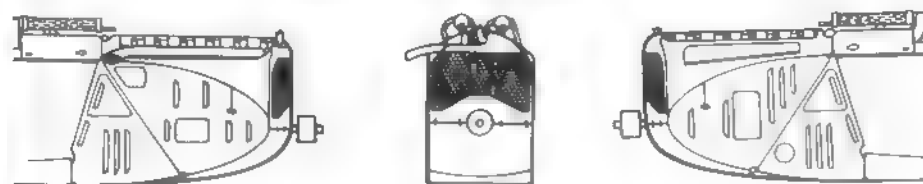


Engine Cooling Louvers

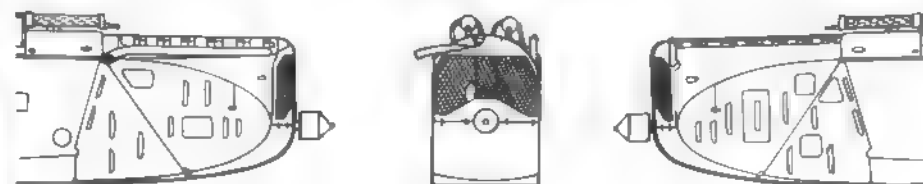
Early Fokker D.VII



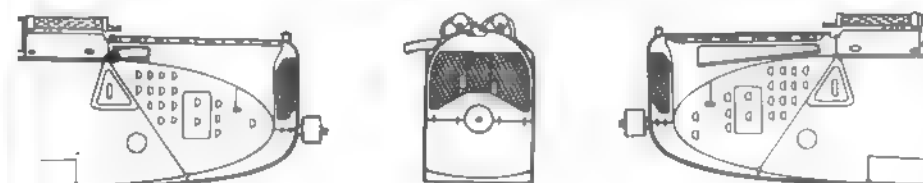
later Fokker Built D.VII



Later Albatros Built D.VII



Later OAW Built D.VII





"Nickchen IV", a Fokker D VII built by Albatros which was captured by American Forces. The wheel cover on the starboard wheel is missing, exposing the delicate spokes. (Bowers)



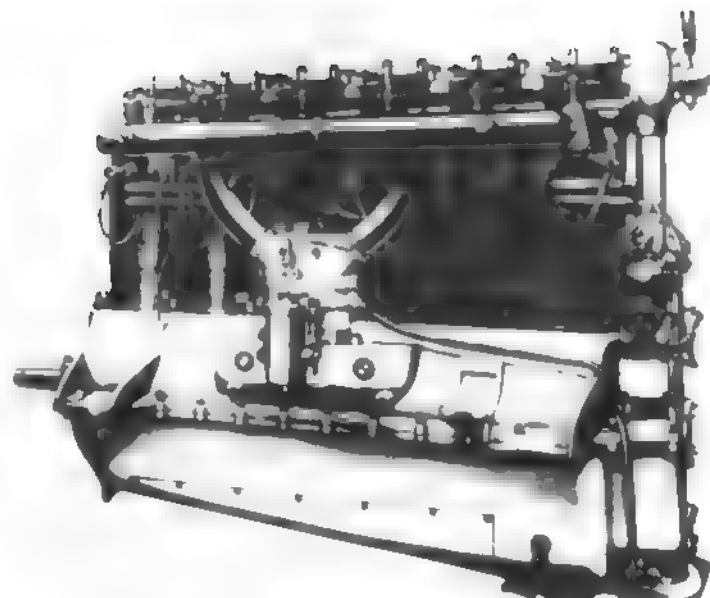
Test pilots at the Ostdeutsche Albatros Werkes (O.A.W.) The port wheel is missing its wheel cover, exposing the spoked wheel. Only O.A.W. applied hand-painted camouflage on the cowling. (Fokker)

FOKKER D.VIIF

Powered by the over compressed 185-hp B.M.W. D IIIa engine, the Fokker D VII F went into production as soon the new B M W. engine became available. This new engine was equipped with a unique altitude compensating carburetor that adjusted the fuel flow to the engine as a function of altitude. In effect, the engine had the usual central carburetor with two additional side carburetors that allowed fuel to flow optimally to the engine as the altitude increased. The fuel flow was adjusted by the pilot.

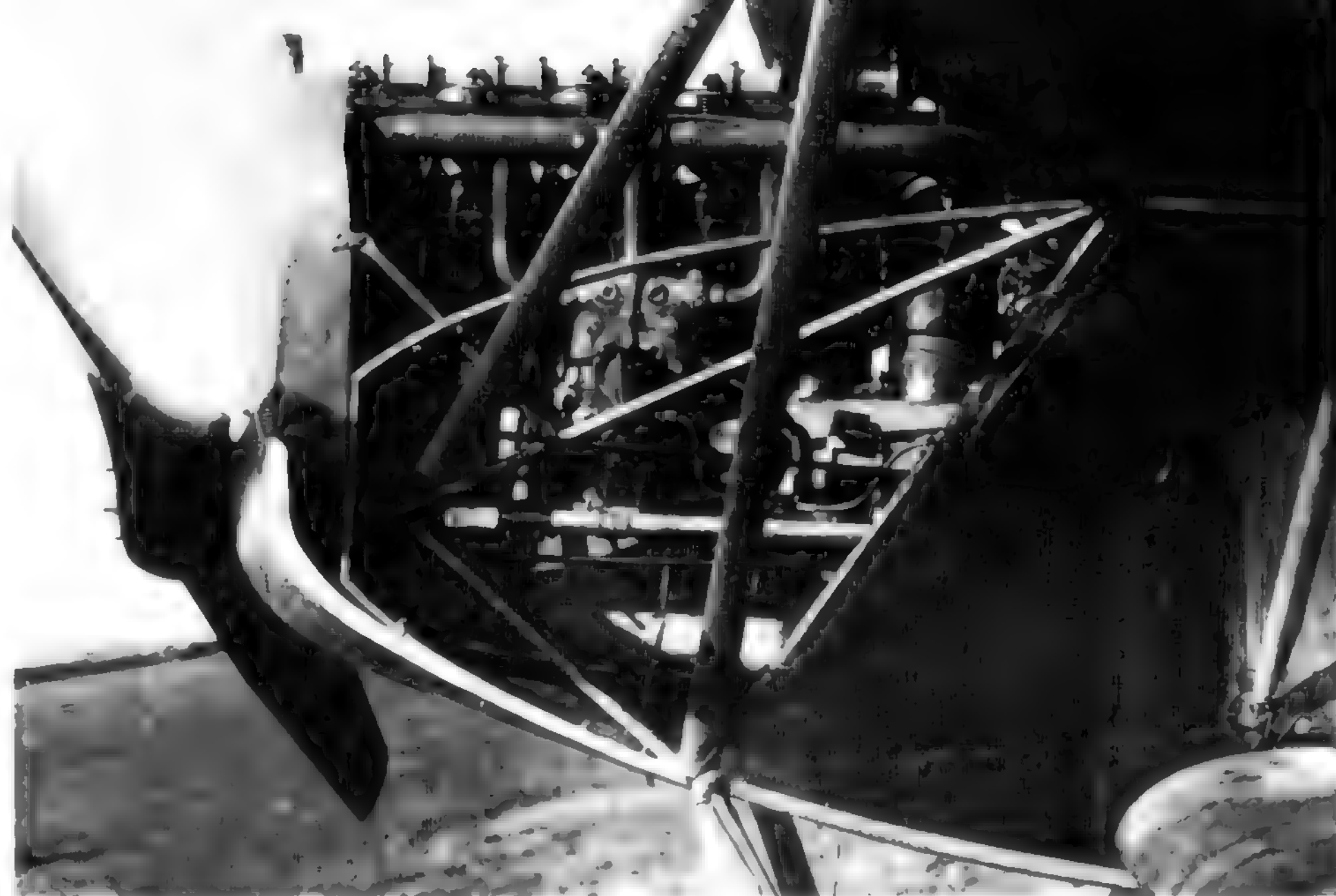
Given the performance of the D.VII, Fokker was given a provisional priority on deliveries of the B M W. engine. After acceptance testing, thirteen B M W. powered Fokker D.VII Fs were delivered to the Jastas in May with more quickly following. The Jastas clamored for the improved aircraft, every pilot wanted to fly combat with the new variant of the D.VII, but there simply were not enough engines available. Engine shortage had caused Fokker frustration and delays in building and delivering the Fokker E-series of monoplanes; engine shortages had prompted Fokker to buy the Oberursel engine works when he had the contract to build the radial engined Dr.1 Triplane.

(Below) A Fokker built D.VIIF in the lozenge type camouflaged fabric. The lozenge pattern was printed on the fabric after it was made and before it was applied to the airframe (Fokker)

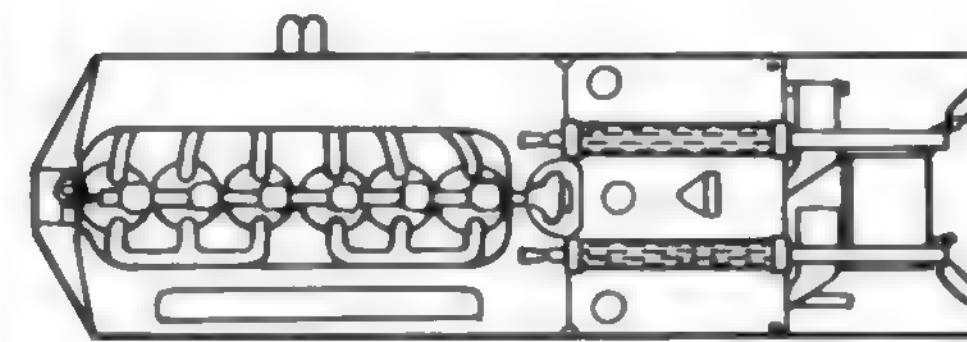


185-hp B.M.W. Engine

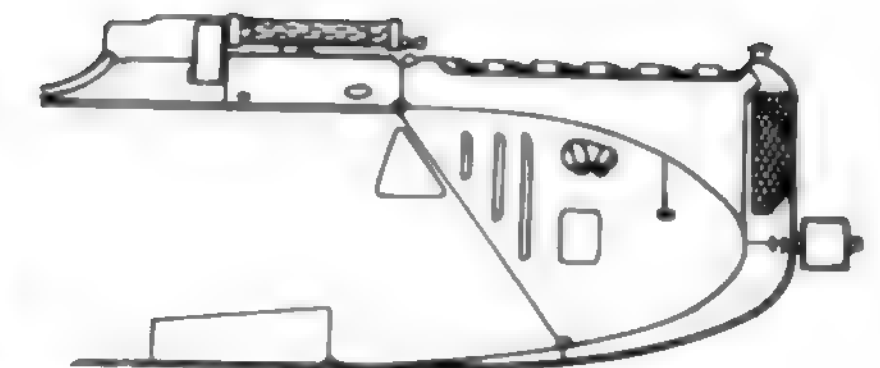




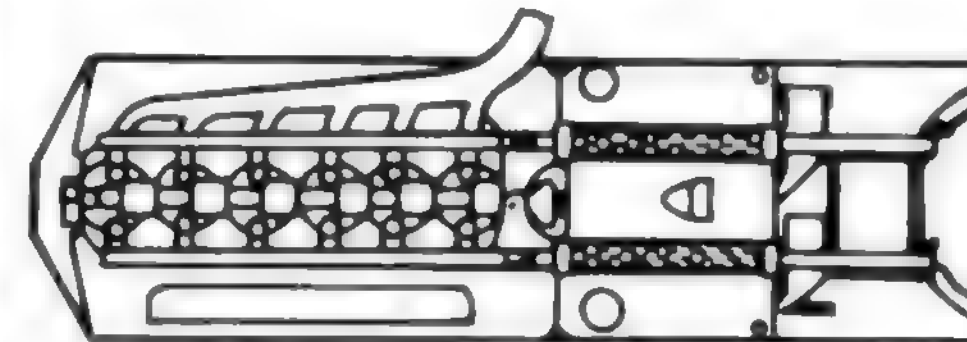
Exhaust System



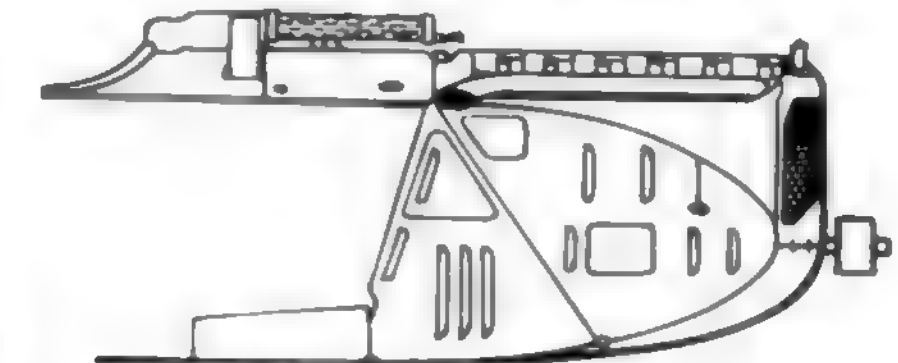
Early Exhaust



160-hp Mercedes engine



Late Exhaust



175-hp Mercedes Engine

185-hp B.M.W. Engine

(Above) The installation of a 185-hp BMW IIIa engine increased considerably the D.VII's performance, especially at high altitude. (Fokker)

(Below) Yet to be covered with fabric, this Fokker D.VIIF fuselage has had oversized wheels installed making it easier to move around. Platz's zeal for welding a simplified airframe can be seen in this photo. (USAF Museum)



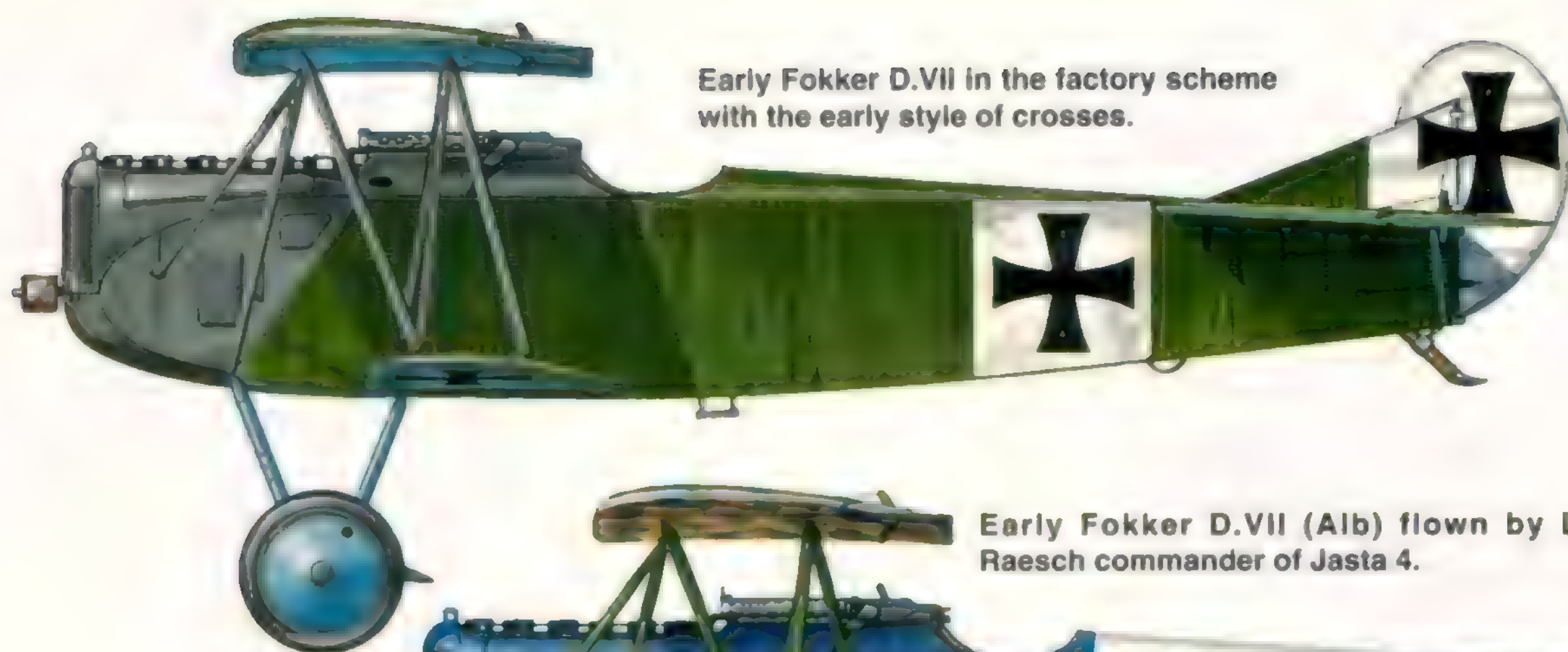


(Above and above right) Oblt Lothar von Richthofen (without hat), is standing next to his D.VII (244/18). Lothar was the brother of Baron Manfred (The Red Baron) von Richthofen. Oblt von Richthofen would finish the war with 40 victories. (Bowers.)

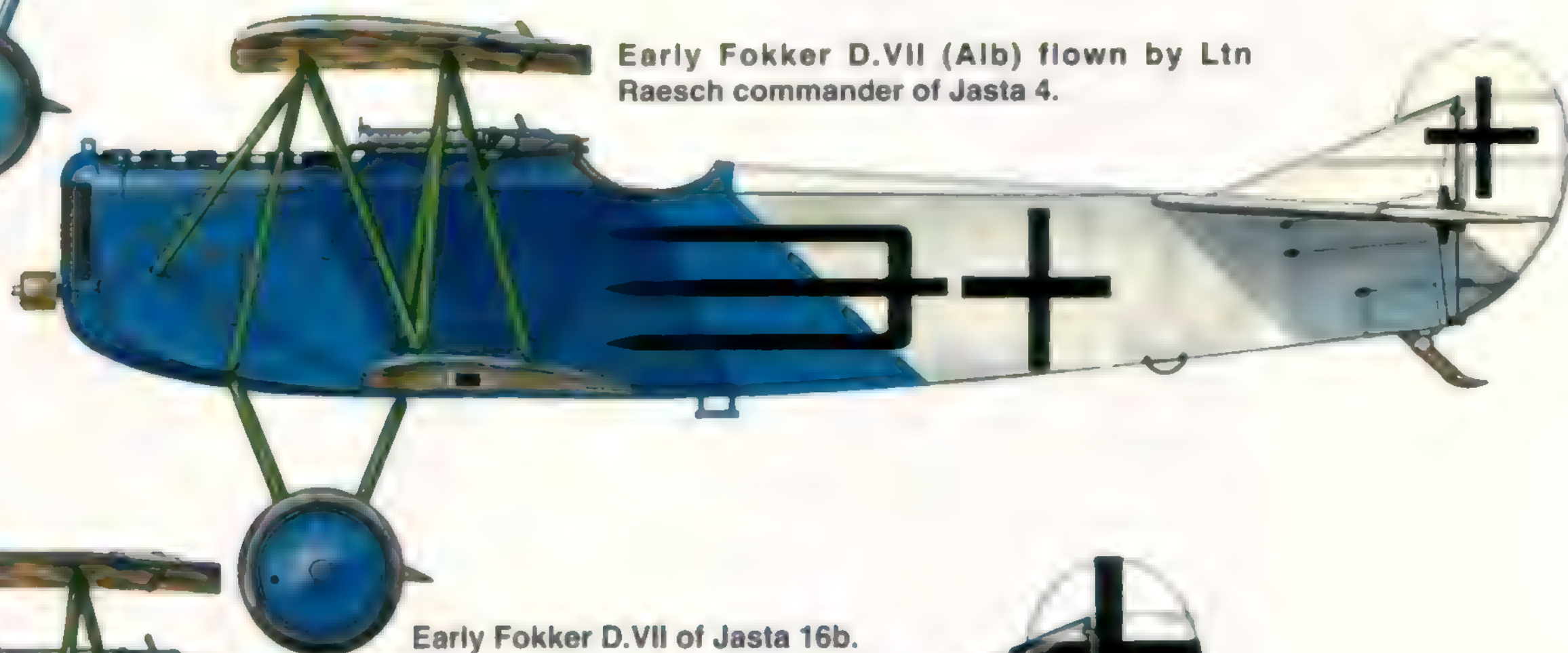


(Below) A D.VII built by the Albatros company is identified by the all-white fin and rudder as well as the distinctively different (from Fokker) lettering on the fuselage and the louver pattern on the engine cowling (Bowers)

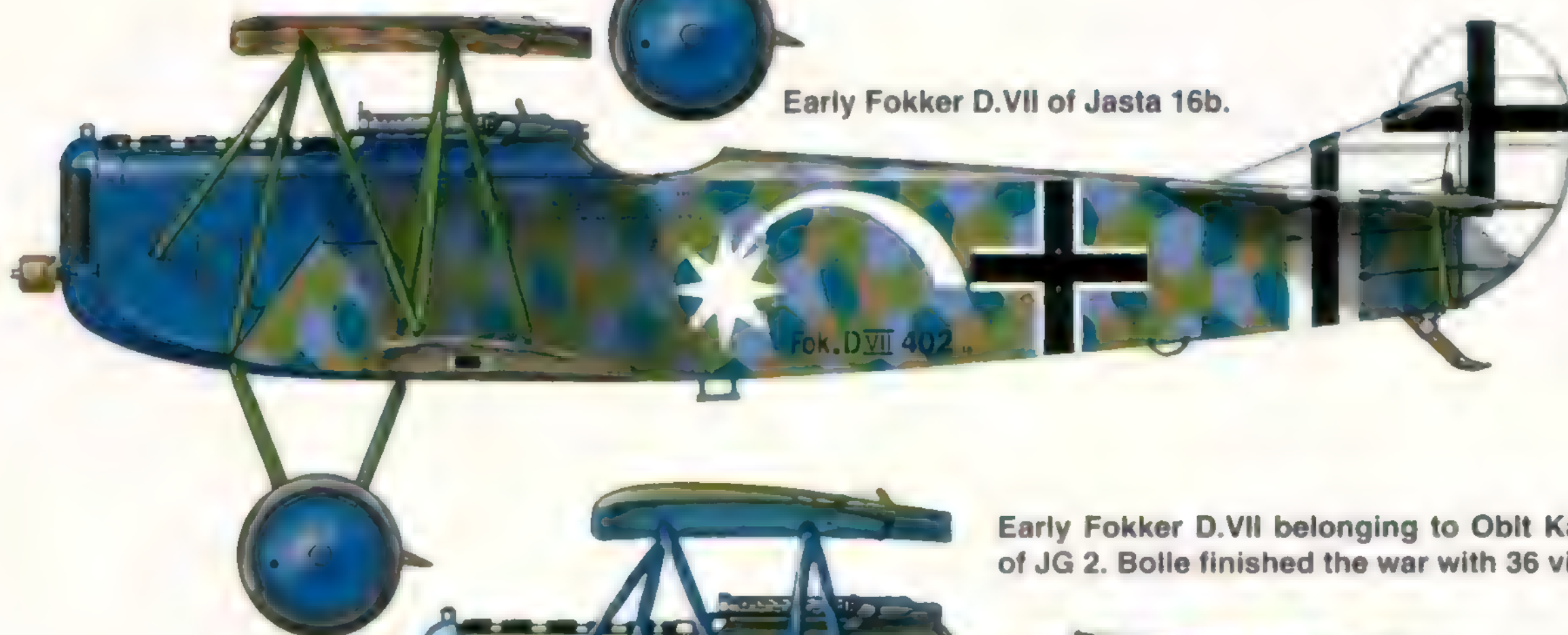




Early Fokker D.VII in the factory scheme with the early style of crosses.



Early Fokker D.VII (Alb) flown by Ltn Raesch commander of Jasta 4.



Early Fokker D.VII of Jasta 16b.



Early Fokker D.VII belonging to Oblt Karl Bolle of JG 2. Bolle finished the war with 36 victories.



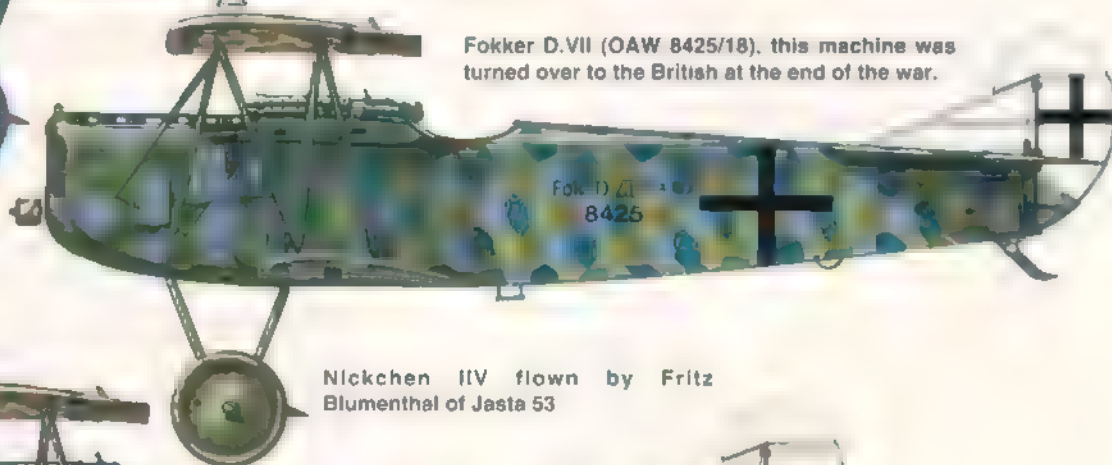
A Fokker D.VII (1450/18) piloted by Hans Shultz when it was shot down by Lt C.H.R. Lagesse of 29 Sqn.



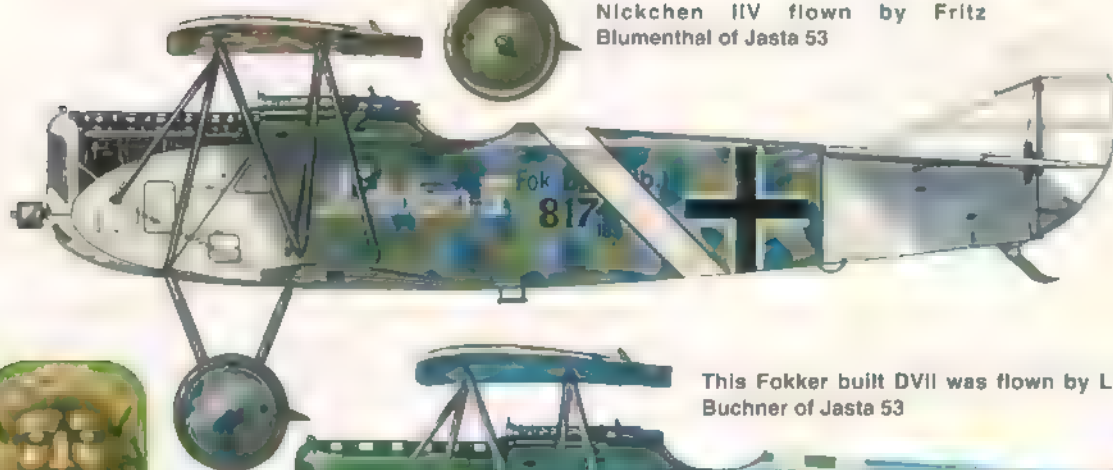
Fokker built D.VII flown by Wilhelm Hippert of Jasta 74



Fokker D.VII (OAW 8425/18). this machine was turned over to the British at the end of the war.



Nickchen IIV flown by Fritz Blumenthal of Jasta 53



This Fokker built DVII was flown by Ltn Franz Buchner of Jasta 53



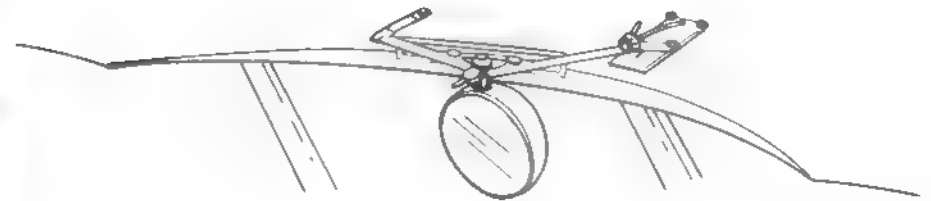
A Fokker built D.VII flown by the Polizeiflieger (Air Police) Staffeln at Paderhorn during the early 1920s





(Above) "The Raven Among the Chickens!" an O.A.W. built D.VII flown by Gunther von Buren of Jasta 18 "Raben" (Raven). The front half of the aircraft is red and the rear half is white. The raven and four chicks are black. A rear view mirror and a flare pistol can be seen at the upper wing cut out. (Koos)

Rear View Mirror in Wing Cut Out



(Below) D.VIIs of Jasta 18 "Raben" lined up before their hangers, each aircraft had its own shed





(Above) Test pilots at the Albatros Works stand in front of their charge, a brand new D.VII. Tape has been applied to each rib position. (Bowers)

(Below) This Fokker D.VII, manufactured by Ostdeutsche Albatros Works, is in front of French Bessonau hanger. (Bowers)



(Above) This Fokker D.VII built by Ostdeutsche Albatros Werke (O.A.W) was flown by Ernst Udet. The wood grain of the propeller stands out on Udet's machine. Ernst Udet would end the war with 62 victories making him the second highest ace in World War I and the highest ace to survive the war. (Bowers)





(Above) A line up of Fokker built D.VII's. The second aircraft carries what looks to be possibly a Star of David. Many Germans of Jewish ancestry served in the German Armed Forces during The Great War. (Koo's)

(Below) Ltn. Josef Mai of Jasta 5 got 15 of his 30 victories in this black and white striped Fokker D.VII. Mai, a superb pilot, survived the war, and died in Germany in 1982 at the age of 94.



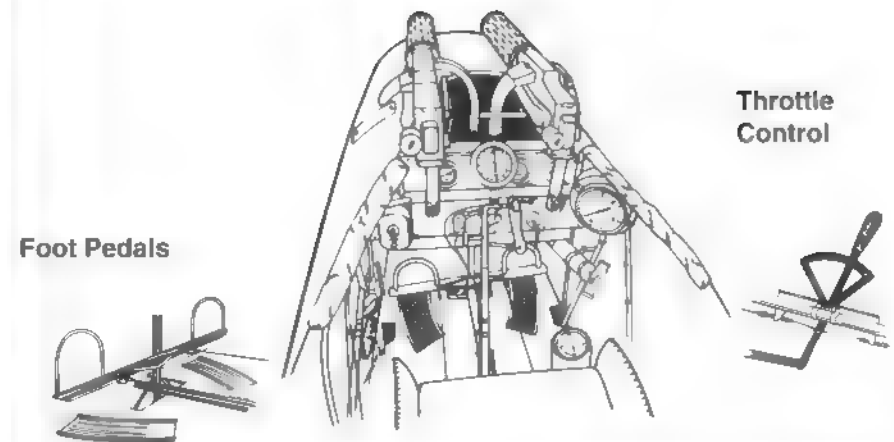


This Fokker built D.VIIF powered by a B.M.W. engine is in American hands with a US American soldier trying out the cockpit for size. (Fokker)



Fokker built D.VIIs of Jagdstaffel 72 at Bergnecourt, France in July of 1918. The "M" marked aircraft was flown by Staffel Leader Lt. Menckhoff. After gaining 39 victories Menckhoff was shot down by 1st Lt. Avery of the 95th US Aero Squadron on 25 July 1918. (Bowers)

Cockpit



Oblt Karl Bolle of Jasta 28 and Jasta 2 was credited with 36 kills before the war ended. While serving with Kampfstaffel 23 earlier in the war Lothar von Richtofen had been his observer. (Nowarra)

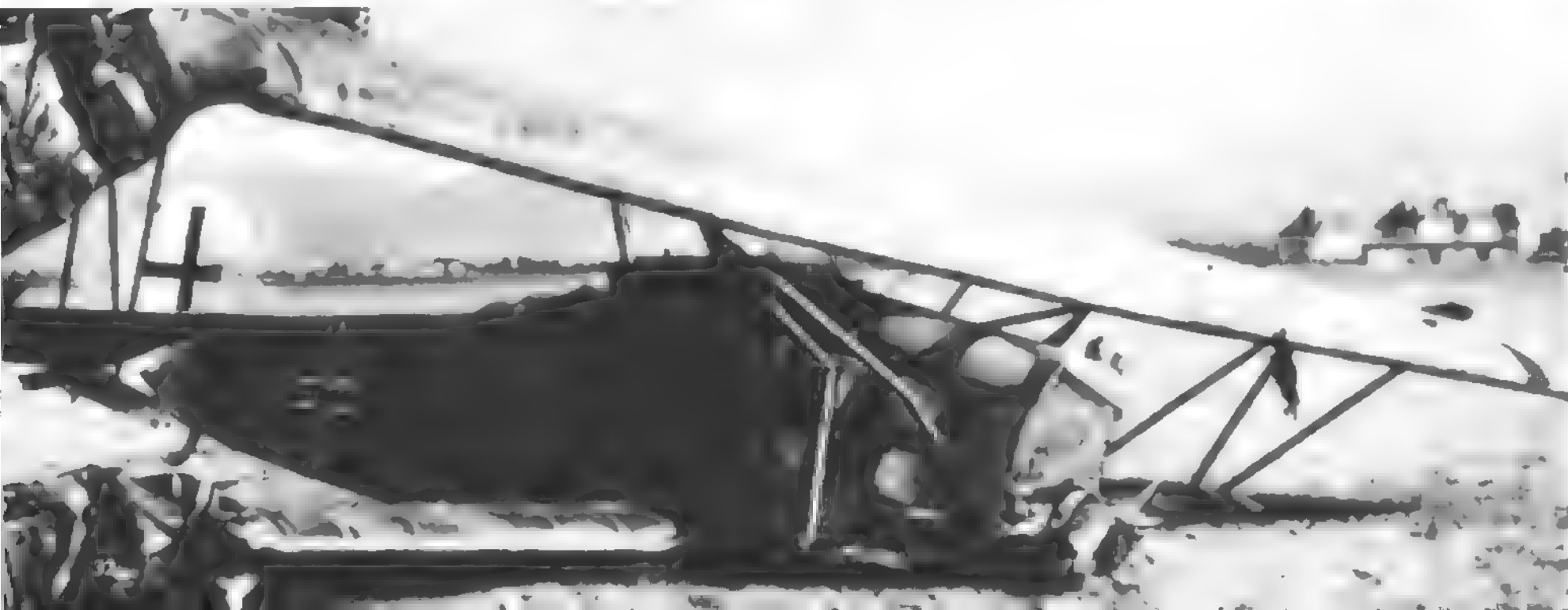


(Above) Ltn Friedrichs of Jasta 10 survived this "good landing", however he died on 15 July when his aircraft suffered an "in-flight" fire and his parachute ripped on the tail plane of his aircraft when he bailed out.



Lt. Rudolf Stark was one of the more innovative German pilots, among a whole air force of innovative pilots. The rule book for airfighting was being re-written on a daily basis. (Andre H. C. Botto Souza)

(Below) Unteroffizier Erich Buder of Jasta 84 also walked away from this less than graceful landing. Buder would go to claim a total of 12 victories.





A Fokker built D.VIIF (7795/18) with the 185-hp BMW Engine. Because of its superior performance this model was the most sought after mount by German pilots during the war. The 'F' in the side-lettering identifies this as a D.VIIF. (Fokker)



This early machine built by O.A.W. (2009/18), was the first Fokker D.VII captured intact by the French. The aircraft, repainted with French markings, was photographed in France then sent to England. (USAF Museum)

The same Fokker D.VII (2009/18) on display in England. (USAF Museum)



This Fokker D.VII of Jasta 65 carrying the personal markings "U 10", was captured by the American 95th Aero Squadron, signified by the kicking mule that has been added to the forward fuselage. (USAF Museum)

The original crosses had been cut off for souvenirs, the repainted crosses are smaller. This machine was restored to its WW I configuration and is now on display in the Smithsonian. (USAF Museum)



The Fokker D.VII after the Great War

The Treaty of Versailles ending the war prohibited Germany from having an Air Force and prohibited aircraft from being manufactured in Germany, dashing Fokker's plans of remaining in Germany as an aircraft manufacturer.

As the war was coming to an end Fokker had outfitted a special two-seated D.VII (V.38) in September of 1918. Fokker installed an additional fuel tank behind the rear seat, providing a six-hour flying time. He parked the plane at Goerries Aerodrome, Schwerin from which he planned to escape to Holland with his fiancée if the situation in Germany deteriorated into civil war. Unrest among his German work force had already made the Dutchman fear for his life. Unfortunately some of his workers discovered the escape plane at Schwerin and placed it under guard.

in erster Linie alle Apparate D.VII. ... (especially all machines of the D.VII type...), from article IV of the 1918 armistice that ended the Great War and called for all Fokker D.VIIs to be confiscated or destroyed, the only aircraft cited specifically. However, Anthony Herman Gerard Fokker was able to load six railroad trains with dismantled D.VIIs, parts, material and equipment and fled to Holland where he re-established his aircraft manufacturing company.

The Allies set the International Allied Aviation Control Commission (IAACC) to oversee the dismantling of the German aeronautical manufacturing and military organization. The IAACC oversaw the collection of, and allocation of "war booty" D.VIIs to be shipped to the various Allied countries as well selling German aircraft to nations wishing to purchase them.

Belgium got the largest number of D.VIIs, receiving 324 as part of their war reparations, others were sold to Switzerland, Poland, The Soviet Union, Finland, etc. 142 "War Booty" D.VIIs went to the United States Army Air Service (USAAS). These confiscated fighters began to arrive in the U.S. shortly after the Armistice. Fokker D.VIIs were flown in full German markings in a "Victory Bond drive" in April 1919. Fokker D.VIIs were sent to a number of Army air fields across the United States.

The United States Army Air Service (USAAS) organized the Transcontinental Reliability and Endurance Test (mostly to publicize the existence of the USAAS), but officially to test available aircraft over possible national air routes for the future. Entries were to fly from New York to San Francisco and back! Army Air Service personnel flew the course. The majority of the aircraft beginning the race were American built De Havilland bombers with a sprinkling of single seat fighters - an Italian SVA 5, a Thomas-Morse Scout, a SPAD and seven SE 5As, with four Fokker D.VIIs rounding out the line up.

There were eight fatalities, but while only one D.VII finished the Test/race, none of the fatalities were Fokker pilots. Two D.VIIs crash-landed but the pilots were unhurt. An official report written by the AAS stated, "The simple, cheap construction of the Fokker and its peculiar wing section are both radical departures in airplane design, and designers will do well in the future to consider this machine and its very ingenious construction."

Most of the Fokker D.VIIs sent to the United States retained their German markings, some were still in German livery as late as 1923. When the D.VIIs were refinished, they were painted overall Olive Drab with white stars on blue circles painted on the four wing positions. Red and white vertical stripes were painted on the rudders. German numerical markings were sometimes left with the date deleted.

The engineering division of the AAS at McCook field gave each Fokker a 'P' number standing for 'plane'. Of the experimental aircraft at McCook field, eleven were D.VIIs. The



A Fokker D.VII along with other captured German aircraft on display in the Place de la Concorde, France. Many of the markings have been stripped from the aircraft by souvenir hunters. (USAF Museum)

engineering group found it simple to adapt various engines to the Fokker D.VII and consequently installed the 215-hp Liberty 6, the Liberty V-8, and several Packard V-12s.

Three D.VIIs are known to have been given to the Boeing Company in Seattle for testing, probably under contract. Two aircraft were tested to destruction and a third was converted to a two-seater for AAS use.

The Hall-Scott Motor Car Company in Berkeley, California, received a D.VII for engine research and before concluding a proposal to the AAS wrote, "...the equipment handles with passenger and pilot the same as the Fokker scout. (Modified by the company.) No difference is noted except when landing the tail goes down slightly faster than it does without a passen

One of the few Fokker D.VIIs that operated in post-war Germany. Wheel covers and the axle wing have been removed. (Fokker)





A confiscated Fokker D.VII built by O.A.W. (USAF Museum)

ger The handling quality, ease of assembly and care and operation features of the plane are "already known as not being surpassed by any similar type airplane of the present day."

The P-157 was modified into a 'Night Attack' D.VII powered by a Liberty 6 engine manufactured by the Thomas-Morse company. The test pilot, Louis P. Monarty, wrote among other things, "The flying qualities of this airplane are exceptionally good. In maneuvering it

A war-booty D.VIIF powered by the 185-hp BMW Engine. (USAF Museum)



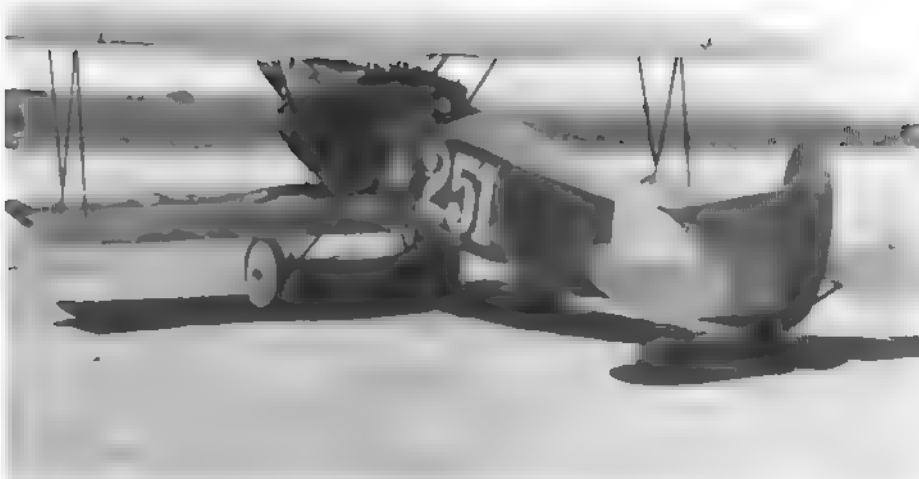
A group of Polish pilots equipped with Fokker D.VIIs after WW I to fight the Russian Bolsheviks. (Fokker)

responds easily and rapidly, all control surfaces being balanced and very effective. It is tail heavy on climb or in level flight with full engine, and nose heavy in a glide...." (Specifically the way Fokker had designed it to fly! Author.) It is unknown what the 'Night Fighter' modifications were.

The general consensus of opinion of the pilots testing the various modifications of the AAS

Not much is known about Polish use of the Fokker D.VII, nor how many aircraft were received. (Fokker)



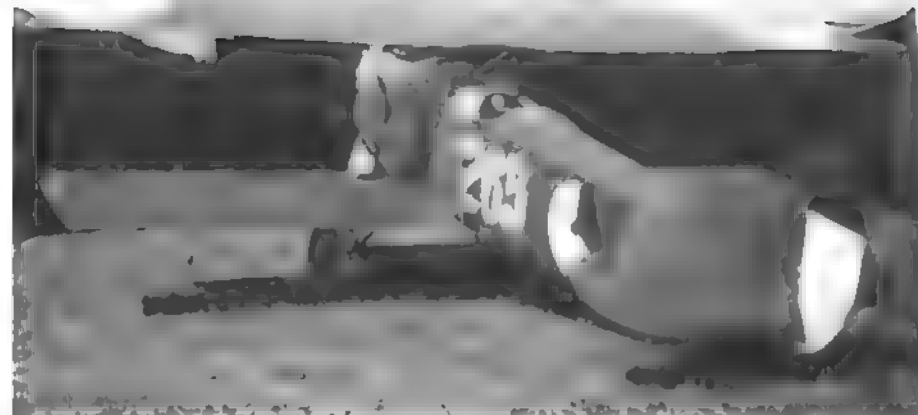


This Fokker D.VII in the Dutch Army Air Service is painted overall Dark Brown. The circle on the fuselage as well as the rudder were painted orange. (Bowers)

Fokker D.VII's indicated that none of the modified aircraft flew as well as the unmodified version.

The U.S. Navy received six unmodified D.VII's. These aircraft were in turn given to the Marine Corps and stationed at the Quantico Marine base. Packard engines are claimed to have been installed, but photographs have not so far proven this. Serial numbers A-5843 through A-5858 were initially allocated.

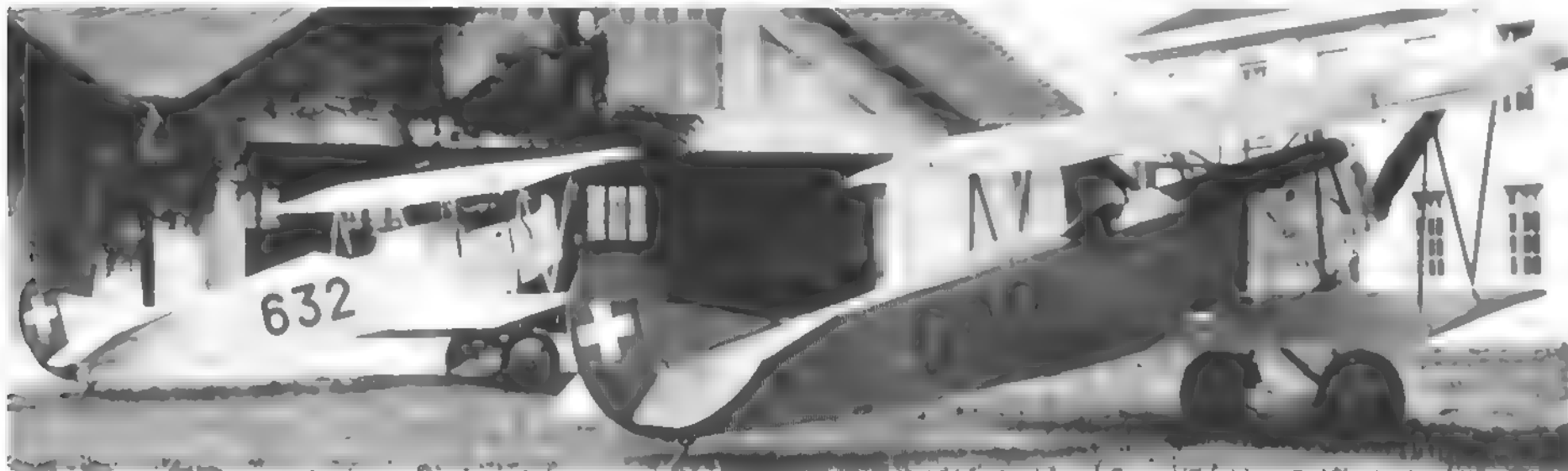
Unarmed Swiss Army Air Service Fokker D.VII's. The cowlings have been modified. The rudder is Red with a White cross and the upper wing carries White crosses on a Red field. (Bowers)



A post 1920 Fokker D.VII in the Dutch Army Air Service. The insignia is a Red-White-Light Blue, tri-partitioned circle with an Orange circle in the center. The rudder, top to bottom, is Red-White-Light Blue. The aircraft is painted overall Dark Brown. (Bowers)

The D.VII's were eventually phased out of the Army Air Service and Marine inventories. By 1927 when civil aircraft registration began, only thirteen D.VII's were registered.

A number of Fokker D.VII's found their way into the movie industry during the twenties and thirties. Crashes took their toll of these 'movie stars'! Only two Fokker D.VII's remained by 1936. One eventually found its way back to the Fokker-Holland factory in 1982, and the other, fully restored, resides at the Smithsonian Institute in Washington, D.C.





(Above) American forces set up a collection point to gather together the 142 Fokker D.VIIs that they were to receive as "war booty". The aircraft were disassembled and sent to the United States. (Betty Stadt Collection)

Eight Fokker D.VIIs are lined up at Kelly Field, Texas. Most D.VIIs acquired by the U. S. as 'war booty' remained in German markings, some for years after the war. The tail of a British S.E.5a can be seen in the foreground. (USAF Museum)





A 'war-booty' Fokker D.VII at McCook Field, USA. The 'P' number on the tail indicates that it has been assigned to the Flight Test Division, US Army Air Service . (Fokker)



(Above) This D VII , maintained in near perfect condition at Kelly Field, USA. As with most Fokker D.VIIs brought to the U.S. it has remained in German markings. (Bowers)

(Below) Ernst Udet, the highest surviving German Ace with 62 victories, demonstrates a two-seated Fokker D VII. This aircraft has a fuel tank in the axle wing. (Fokker)





An armed Fokker D.VII at a Washington, DC air show in 1919 or 1920. (USAF Museum)

This Fokker D.VII was used in the fourth American Liberty Loan Drive (USAF Museum)



Carrying the huge numeral 50, this D.VII was flown by Colonel Barker in the Toronto-New York City air race. A spare wheel is carried on the center wheel wing. (USAF Museum)





P 108 at McCook Field. (USAF Museum)



Lt. Barksdale stunting over Long Island, NY in a D.VII that carries the First Aero Squadron insignia on the fuselage. Barksdale Field is named after this flyer. (USAF Museum)



This USAAS Fokker D.VII has had a Packard engine installed inside a completely redesigned cowling. (USAF Museum)

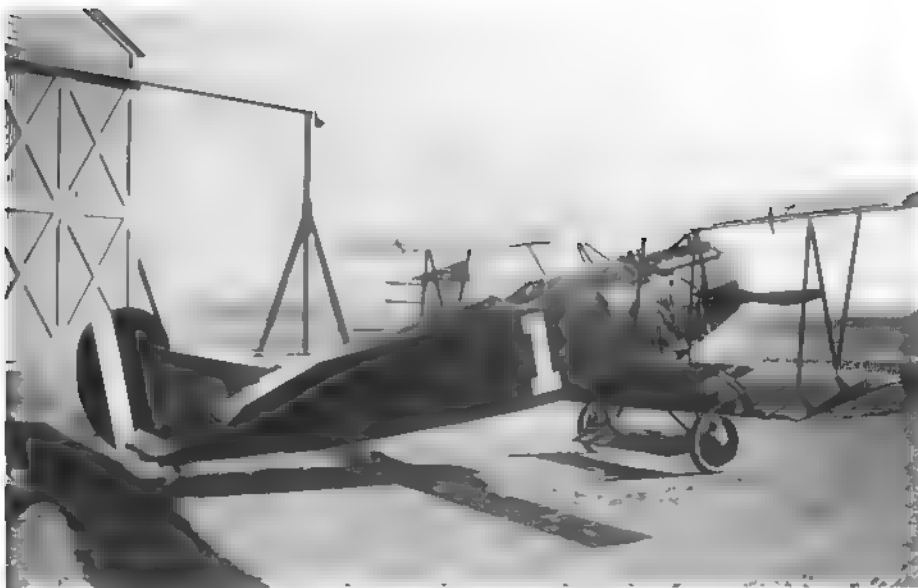
White 3 has been repainted over all in Olive Drab. White stars on a Medium Blue field with Red center circle have been painted on the upper wings. A.S. 2113 was 2113/18 when it served Germany. (USAF Museum)



This Fokker D.VII is flying out of Quantico with the U.S. Marines Corps. (USAF Museum)

This Fokker D.VII (8323/18), now numbered P 127, was photographed prior to its conversion to an experimental Packard Engine at McCook Field. (USAF Museum)





(Above) AS8530 (originally 8530/18) has been completely repainted and re-engined. USAAS Number 1 was flown by Major Arnold at Crissy Field, San Francisco (USAF Museum)



(Above) After conversion to an experimental Packard engine, P 127 went into the Miami River which was adjacent to McCook Field. It is not known if the experiment was considered a success or not. (USAF Museum)

Number 1 (8530/18) was re-engined with a Hall-Scott L-6 Engine. (USAF Museum)

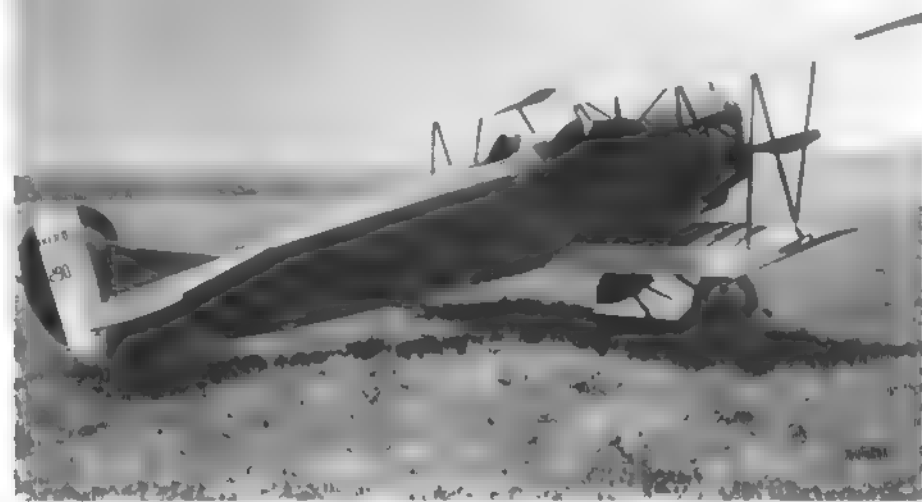




(Above and below) P 195 (A S.64346) with a replacement Packard 8 Engine, and a redesigned cowl at McCook Field. (USAF Museum)



(Above and below) P 290 (A.S.94034) also with a Packard engine and a new cowling installed, McCook Field. (USAF Museum)





A Fokker D.VII with 300-hp Packard engine over McCook Field. What could be more more exhilarating than this—certainly not sitting inside a closed cockpit. (USAF Museum)



Ed Brennan's full scale replica of a Fokker D.VII was the first replica to fly with a Ranger L-440 engine running upright. (USAF Museum)



The Fokker D.VII in Hollywood. This aircraft has a Hispano-Suiza engine installed in it for the movie MEN WITH WINGS in 1938. It has been restored to its original condition and is now in a Museum in Holland. (Bowers)



The restored Fokker D.VII in the Deutsches Museum in Munich, Germany. (USAF Museum)



Flown by Dave Fox at Cole Palen's Aerodrome, this replica is a converted Fokker C.II with a movie camera mounted on its upper wing. (USAF Museum)



The restored Fokker D.VII in the Deutsches Museum in Munich has rather inaccurate markings. (USAF Museum)



Fokker D.VII (OAW) 4464/18 flown by LtH Hans Jungwirth of Jasta 78b.
Light Blue tape has been applied to each wing rib.

Don Greer



Fokker D.VII (OAW) flown by J.H. von Hippel when he
was commander of Jasta 71.

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